Storm Drain Impact Fee Facilities Plan

June 2017

Prepared by:

Bowen Collins & Associates, Inc.
CONSULTING ENGINEERS

Prepared for:

AMERICAN FORK
1853

STORM DRAIN IMPACT FEE FACILITIES PLAN

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SECTION 1
INTRODUCTION

American Fork City has retained Bowen Collins & Associates (BC&A) to prepare an Impact Fee Facility Plan (IFFP) for storm drain services provided by the City. The purpose of an IFFP is to identify master planned storm drain projects that are eligible for impact fees, estimate the implementation costs associated with those projects that are eligible for impact fees, and estimate the excess capacity in the existing storm drain facilities that are eligible for reimbursement through impact fees. This document supersedes chapter 7 of the storm drain master plan.

Much of the analysis forming the basis of this IFFP has been taken from the City's Storm Drain Master Plan completed in 2013 (Storm Drain Master Plan) and the City's Storm Drain Master Plan amendment completed in 2017 (Storm Drain Master Plan Amendment). The reader should refer to the Storm Drain Master Plan or the Storm Drain Master Plan Amendment for detailed discussions of planning and evaluation methodology beyond what is contained in this IFFP.

Requirements for the preparation of an IFFP are outlined in Title 11, Chapter 36a of the Utah Code (the Impact Fees Act). Under the requirements of that statute, an IFFP shall accomplish the following for each facility:

1. Identify the existing level of service
2. Establish a proposed level of service
3. Identify excess capacity to accommodate future growth at the proposed level of service
4. Identify demands placed upon existing public facilities by new development
5. Identify the means by which demands from new development will be met
6. Consider the following additional issues
    a. revenue sources to finance required system improvements
    b. necessity of improvements to maintain the proposed level of service
    c. need for facilities relative to planned locations of schools

The following sections of this report have been organized to address each of these requirements.

TYPES OF RECOMMENDED IMPROVEMENTS

The recommended improvements identified in the Storm Drain Master Plan and the Storm Drain Master Plan Amendment included only major storm drain facilities (system improvements). Local storm drain facilities (project improvements), typically associated with individual development projects, are not included in the Storm Drain Master Plan report nor are they eligible for impact fees. The definitions of system improvements and project improvements are presented below.

- **System Improvements** – System improvements are facilities that typically service multiple developments. System improvements include pipelines that are considered trunklines that serve multiple developments, and regional detention basins that are designed to attenuate peak runoff to levels that can be safely conveyed through existing downstream facilities.

- **Project Improvements –** Project improvements that usually serve one development. Project improvements include smaller storm drain pipes that convey storm water runoff from the 25-year design storm to the system improvements and local detention facilities designed to attenuate peak storm water discharges to a maximum release rate of 0.2 cfs per acre as stated in the Storm Drain Master Plan report.

SERVICE AREA

There is one storm drain service area in American Fork City that includes the study area of the Storm Drain Master Plan; Figure 1-1 shows the boundaries of the service area. Though the service area includes some areas outside the current City municipal limits, it is anticipated that service area will eventually be annexed into American Fork City.

LEGEND

Study Area Boundary - Storm Drain Impact Fee Service Area

Lehi

American Fork

American Fork

Pleasant Grove

Lindon

Utah Lake

TSSD
WWTP

Railroad

NORTH:

SCALE:

0 3,000 Feet

STORM DRAIN IMPACT FEE SERVICE AREA

AMERICAN FORK CITY
STORM DRAIN
MASTER PLAN AMENDMENT

Bowen Collins & Associates, Inc.
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FIGURE NO.
1-1

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SECTION 2
EXISTING LEVEL OF SERVICE - 11-36a-302(1)(a)(i)

Level of service is defined in the Impact Fees Act as "the defined performance standard or unit of demand for each capital component of a public facility within a service area." This section discusses the level of service being currently provided to existing users.

EXISTING LEVEL OF SERVICE

The Storm Drain Master Plan identifies recommended improvements based on meeting the level of service established in the City's Storm Water Technical Manual. The level of service is also summarized below.

Storm Drain Conveyance

Storm drain pipelines are not allowed to flood into the street during the 25-year design storm event. In the event that storm water discharge is greater than the 25-year design event, the pipes will pressurize and excess runoff will be conveyed on street surfaces. It is important to note that roadways will also convey storm water runoff during storms that are larger than the 25-year design event, and should be designed to convey flows up to the 100-year event. Storm drain trunklines are not to be less than 18 inches in diameter, though storm drain laterals may be 15 inches in diameter.

While the City does use some open channels for storm drain conveyance, no open channel costs are proposed to be recovered as part of storm drain impact fees. The recommended improvements also do not include any open channels. As a result, open channels will not be considered further as part of this IFFP.

Detention Basins

Detention facilities need to have capacity to safely function during a 100-year design storm with at least one foot of freeboard. All detention basins need to have an emergency overflow, designed to convey runoff from storms larger than the design storm event that directs water toward major conveyance facilities, such as a right-of-way and away from private property and areas of potential property damage.

UNIT OF DEMAND

Impact fees will be calculated based on total acreage, based on the city-wide detention requirement of 0.2 cfs per acre.

SECTION 3
PROPOSED LEVEL OF SERVICE - 11-36a-302(1)(a)(ii)

The proposed level of service is the performance standard used to evaluate system needs in the future. The Impact Fee Act indicates that the proposed level of service may:

1. diminish or equal the existing level of service; or
2. exceed the existing level of service if, independent of the use of impact fees, the City implements and maintains the means to increase the level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service.

No changes in the level of service are proposed for American Fork City. Future facilities will be constructed to meet the same performance standards identified for the existing level of service.

SECTION 4
EXCESS CAPACITY TO ACCOMMODATE FUTURE GROWTH - 11-36a-302(1)(a)(iii)

As discussed in the Storm Drain Master Plan, available information on the City's existing storm drain collection system is limited. As a result, the cost of capacity in the existing system that can be documented is expected to be minimal. Therefore, for the development of the Impact Fee Analysis, the cost of the excess capacity in the existing storm drain system is assumed to be negligible and will not be included in the impact fee calculation.

SECTION 5
DEMANDS PLACED ON FACILITIES BY NEW DEVELOPMENT - 11-36a-302(1)(a)(iv)

To satisfy the requirements of state law, demand placed upon system facilities by future development was projected using the process outlined below.

1. **Existing Demand** – The peak storm drain flow rates for existing development conditions were estimated using the hydrologic model (see the Storm Drain Master Plan).
2. **Existing Capacity** - The capacities of the existing facilities were evaluated based on the defined level of service using a hydraulic storm water model developed as part of the master plan.
3. **Existing Deficiencies** – Existing deficiencies in the system identified for by comparing defined levels of service against calculated capacities.
4. **Future Demand** - The demand that future development will place on the system was estimated based on development projections.
5. **Future Deficiencies** - Future deficiencies in the storm drain infrastructure were identified by comparing the defined level of service against calculated capacities.
6. **Recommended Improvements** – Needed storm drain improvements were identified to resolve the projected deficiencies.

The steps listed above describe the "demands placed upon existing public facilities by new development activity at the proposed level of service; and… the means by which the political subdivision or private entity will meet those growth demands" (Section 11-36a-302-(1)(a)(iv)(v) of the Utah Code).

SECTION 6
INFRASTRUCTURE REQUIRED TO MEET DEMANDS OF NEW DEVELOPMENT - 11-36a-302(1)(a)(v)

Planned improvements to satisfy level of service requirements for projected demands at build out have been identified in the City's Storm Drain Master Plan and Storm Drain Master Plan Amendment. These improvements will be constructed in phases as development occurs. Only infrastructure to be constructed within a 10-year horizon were considered in the calculation of these impact fees to avoid uncertainty surrounding improvements further into the future.

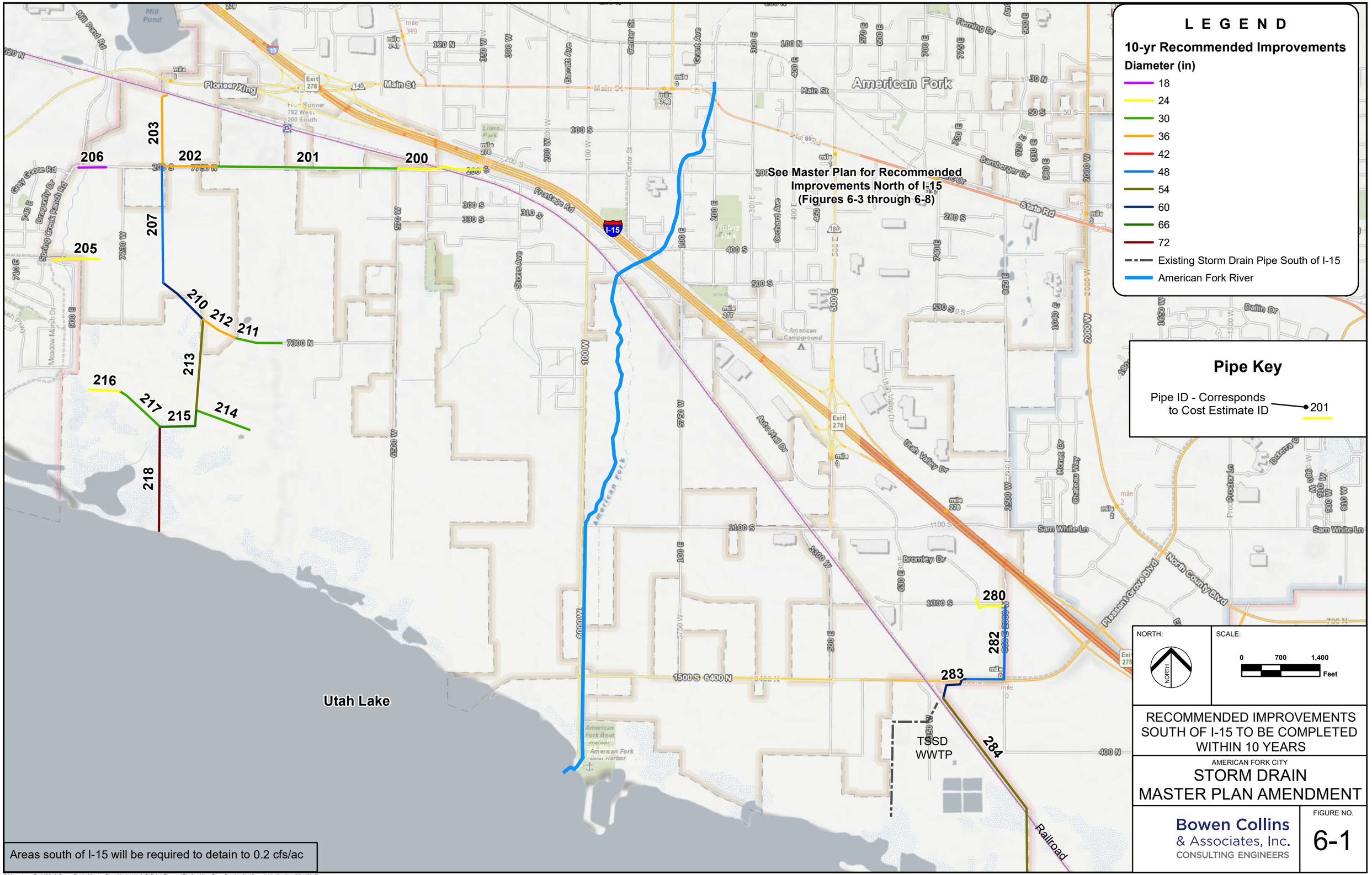
To identify improvements to be constructed within the 10-year window, prioritization of projects was based on areas of potential development. The highest priority projects were added to the City's 10-year improvement plan. The 10-year plan is divided into two separate phases: improvements to be constructed within 5 years, and improvements to be constructed in 6 to 10 years. Table 6-1 summarizes the projects to projected to be constructed with within the next ten years south of I-15 and Table 6-2 includes the projects to be constructed in the next 10 years north of I-15. The location of these projects are identified in Figures 6-1 and 6-2. It should be noted that Tables 6-1 and 6-2 only include those projects with costs that are eligible to be included in the impact fee calculation. The tables do not include potential bond costs related to paying for impact fee eligible improvements. Bond costs should be evaluated later as part of the impact fee analysis.

The total existing developed area that will be served by the storm drain projects identified in Tables 6-1 and 6-2 is 4,080 acres, and the total projected build-out area that will be served by the storm drain projects identified in Tables 6-1 and 6-2 is 5,675 acres.

Projected 10 Year Growth

The projects that will be constructed within the next 10 years will serve development through build-out. However, impact fees will only be collected for the portion of the capacity that will be used by growth in the next 10 years. Over the next 10 years, it is estimated that 450 acres of undeveloped area will develop within the American Fork Storm Drain Service Area. The estimated 450 acres of growth will be used in the Impact Fee Analysis in the calculation of the final impact fee.

The local detention requirement limiting runoff to 0.2 cfs per acre creates similar runoff per acre from all sites regardless of the development type. For this reason, conveyance facilities are calculated on the gross acreage that contributes to each facility. Because of the city-wide detention requirements, the storm drain impact fee will be the calculated based on total acreage regardless of the type of development.



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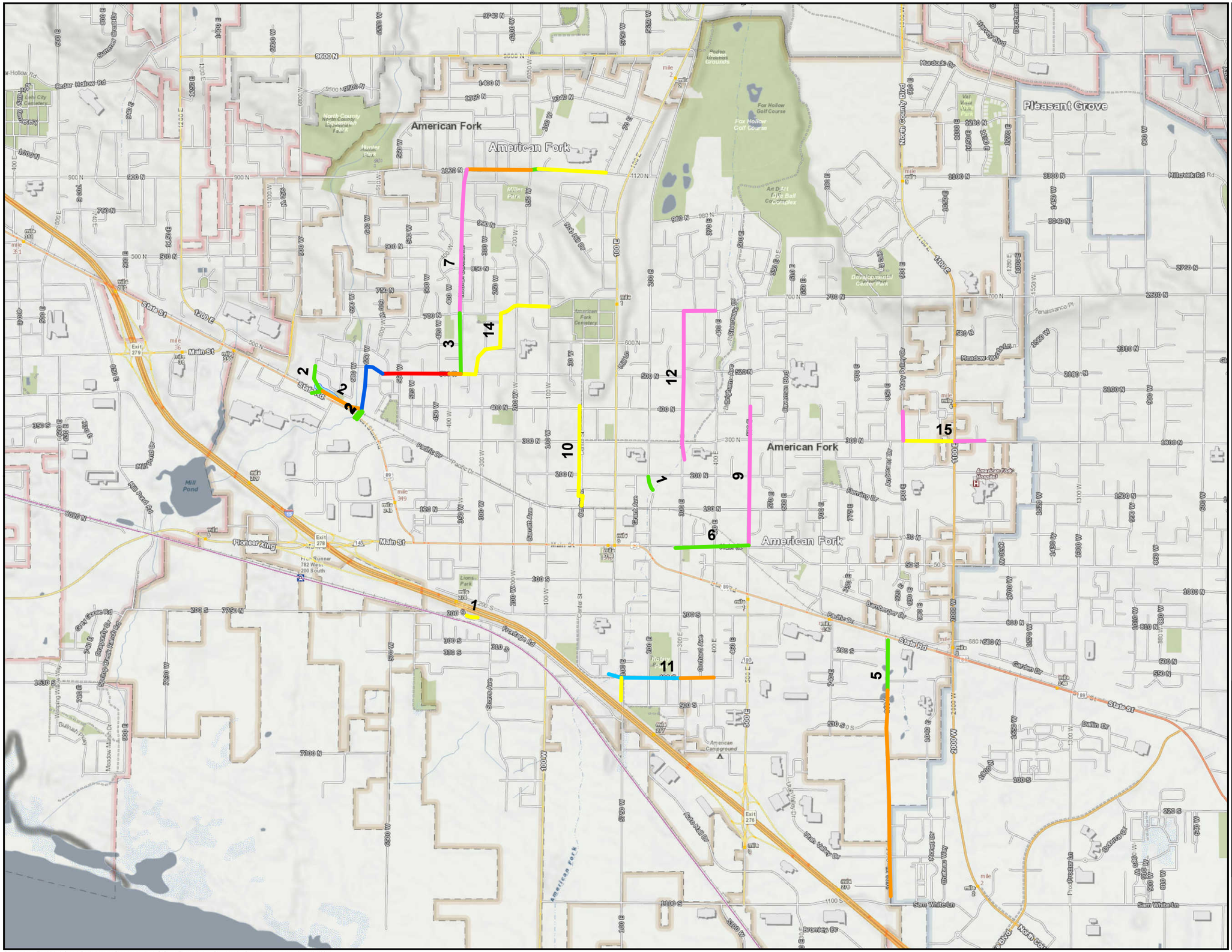

Legend

10-yr Recommended Improvements

Diameter (in)

- 18
- 24
- 30
- 36
- 42
- 48
- 60
- Detention Basin

NORTH:

SCALE: 0 750 1,500 Feet

RECOMMENDED IMPROVEMENTS NORTH OF I-15 TO BE COMPLETED WITHIN 10 YEARS

AMERICAN FORK CITY

STORM DRAIN MASTER PLAN UPDATE

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FIGURE NO. 6-2

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Table 6-1
Impact Fee Facilities Plan - Project Cost Allocations to Existing and Future Users for the Next 10 Years - Area South of I-15

				Existing		Percent of Cost Attributable		Cost Attributable to:	
Project ID	2017 Cost Estimate[1,2]	Downstream Pipe[3]	Phasing	Area Developed (acres)	Future Area Developed (acres)	Service Existing Users	Future Development	Service Existing Users[4]	Future Development[5]
200	$ 649,985.22		1-5 years	55	55	100%	0%	$ 649,985.22	$ -
201	$ 761,410.61		1-5 years	60	130	46%	54%	$ 351,420.28	$ 409,990.33
202	$ 274,786.91		1-5 years	65	150	43%	57%	$ 119,074.33	$ 155,712.58
203	$ 686,610.43		1-5 years	84	98	86%	14%	$ 588,523.23	$ 98,087.20
205	$ 174,229.88	X	6-10 years	0	47	0%	100%	$ -	$ 174,229.88
206	$ 85,926.54	X	6-10 years	0	32	0%	100%	$ -	$ 85,926.54
207	$ 728,714.01		6-10 years	149	272	55%	45%	$ 399,185.25	$ 329,528.76
210	$ 434,833.05		1-5 years	149	342	44%	56%	$ 189,444.81	$ 245,388.24
211	$ 183,327.79		1-5 years	0	153	0%	100%	$ -	$ 183,327.79
212	$ 165,260.61		1-5 years	0	247	0%	100%	$ -	$ 165,260.61
213	$ 734,527.87		1-5 years	149	589	25%	75%	$ 185,814.35	$ 548,713.52
214	$ 217,745.44		6-10 years	0	71	0%	100%	$ -	$ 217,745.44
215	$ 452,362.77		1-5 years	149	660	23%	77%	$ 102,124.32	$ 350,238.45
216	$ 100,452.69		6-10 years	0	30	0%	100%	$ -	$ 100,452.69
217	$ 211,643.94		6-10 years	0	58	0%	100%	$ -	$ 211,643.94
218	$ 1,034,982.47	X	1-5 years	149	779	19%	81%	$ 197,961.99	$ 837,020.48
230	$ 69,722.94		1-5 years	45	61	74%	26%	$ 51,434.95	$ 18,287.98
231	$ 348,142.74		1-5 years	45	61	74%	26%	$ 256,826.61	$ 91,316.13
232	$ 204,110.94		1-5 years	0	117	0%	100%	$ -	$ 204,110.94
233	$ 525,360.83		1-5 years	45	178	25%	75%	$ 132,815.94	$ 392,544.89
234	$ 183,479.79		1-5 years	0	135	0%	100%	$ -	$ 183,479.79
235	$ 660,826.37		1-5 years	45	313	14%	86%	$ 95,006.99	$ 565,819.39
240	$ 141,511.90		6-10 years	44	108	41%	59%	$ 57,653.00	$ 83,858.90
241	$ 421,585.09		6-10 years	44	108	41%	59%	$ 171,756.89	$ 249,828.20
243	$ 613,111.34		6-10 years	44	185	24%	76%	$ 145,821.08	$ 467,290.27
246	$ 317,063.86		6-10 years	44	355	12%	88%	$ 39,298.06	$ 277,765.80
270	$ 593,760.87		1-5 years	340	521	65%	35%	$ 387,483.10	$ 206,277.77
271	$ 126,763.72		1-5 years	0	49	0%	100%	$ -	$ 126,763.72
272	$ 318,671.08		1-5 years	404	625	65%	35%	$ 205,988.98	$ 112,682.09
280	$ 143,382.92		1-5 years	43	74	58%	42%	$ 83,317.10	$ 60,065.82
281	$ 33,780.86		1-5 years	43	74	58%	42%	$ 19,629.42	$ 14,151.44
282	$ 683,735.94		1-5 years	1,093	1,424	77%	23%	$ 524,805.74	$ 158,930.19
283	$ 299,820.37		1-5 years	1,129	1,535	74%	26%	$ 220,519.35	$ 79,301.02
284	$ 2,352,904.39	X	1-5 years	1,129	1,535	74%	26%	$ 1,730,572.68	$ 622,331.72
Totals	$ 14,934,536.19		-	-	-	-	-	$ 6,906,463.66	$ 8,028,072.53

[1] The cost estimate includes Construction, Engineering, Legal Fees, Administration & Unexpected Conditions

[2] No cost for required local detention facilities are included

[3] Downstream pipe is either an outfall to Utah Lake or the most downstream pipe in the trunkline. The downstream pipe area is used in the Impact Fee Calculation.

[4] Costs attribuatable to serving existing users will not be paid for using impact fees

[5] Future Development can be paid for using impact fees

Table 6-2
Impact Fee Facilities Plan - Project Cost Allocations to Existing and Future Users for the Next 10 Years - Area North of I-15

				Existing		Percent of Cost Attributable		Cost Attributable to:	
Project ID	2017 Cost Estimate[1,2]	Downstream Pipe[3]	Phasing	Area Developed (acres)	Future Area Developed (acres)	Service Existing Users	Future Development	Service Existing Users[4]	Future Development[5]
1a	$ 106,571.95	X	1-5 years	50	50	100%	0%	$ 106,571.95	$ -
1b	$ 69,495.91	X	1-5 years	285	385	74%	26%	$ 51,445.02	$ 18,050.89
2	$ 2,005,142.43	X	6-10 years	1039	1189	87%	13%	$ 1,752,260.78	$ 252,881.65
3	$ 1,867,771.14		6-10 years	468	498	94%	6%	$ 1,755,254.81	$ 112,516.33
5	$ 3,083,236.84	X	1-5 years	853	1053	81%	19%	$ 2,497,626.80	$ 585,610.04
6	$ 555,500.22	X	6-10 years	65	65	100%	0%	$ 555,500.22	$ -
7	$ 2,144,306.75		6-10 years	339	364	93%	7%	$ 1,997,032.93	$ 147,273.82
9	$ 804,354.08		6-10 years	65	65	100%	0%	$ 804,354.08	$ -
10	$ 674,607.85	X	1-5 years	123	123	100%	0%	$ 674,607.85	$ -
11	$ 1,191,683.19	X	6-10 years	181	181	100%	0%	$ 1,191,683.19	$ -
12	$ 1,043,915.90	X	1-5 years	56	56	100%	0%	$ 1,043,915.90	$ -
14	$ 916,699.20		6-10 years	39	54	72%	28%	$ 662,060.53	$ 254,638.67
15	$ 682,846.62	X	1-5 years	150	180	83%	17%	$ 569,038.85	$ 113,807.77
Totals	$ 15,146,132.09		-	-	-	-	-	$ 13,661,352.93	$ 1,484,779.16

[1] The cost estimate includes Construction, Engineering, Legal Fees, Administration & Unexpected Conditions

[2] No cost for required local detention facilities are included

[3] Downstream pipe is either an outfall to Utah Lake or the most downstream pipe in the trunkline. The downstream pipe area is used in the Impact Fee Calculation.

[4] Costs attribuatable to serving existing users will not be paid for using impact fees

[5] Future Development can be paid for using impact fees

PROJECT COST ATTRIBUTABLE TO FUTURE GROWTH

To satisfy the requirements of state law, Tables 6-1 and 6-2 provide a breakdown of the impact fee facility projects and the percentage of the project costs attributed to existing and future users. As defined in Section 11-36-304, the impact fee facilities plan should only include "the proportionate share of the costs of public facilities [that] are reasonably related to the new development activity." While some projects from the capital facilities plan are required to meet future growth, some projects may also provide benefit to existing users.

For some projects, the division of costs between existing and future users is easy because 100 percent of the project costs can be attributed to one category or the other (e.g. infrastructure needed solely to serve new development can be 100 percent attributed to new growth). For projects needed to address both existing deficiencies and new growth, the costs were divided based on the area the pipe serves. For example, if a pipe is to be replaced and will cost $100,000 and it serves an area that is 80 percent developed, existing users would be responsible to pay $80,000, while future users would be responsible for $20,000.

The method used to calculate division of costs between existing and future users is as follows:

- **Calculate Potential Drainage Area Served by the Facilities –** The total drainage area contributing to each project at buildout was calculated.
- **Identify Existing Development –** Based on GIS records and available aerial photography, existing developed areas within each drainage area were identified.
- **Identify Future Build-out Growth** – The area associated with build-out was estimated.
- **Calculate Percent Capacity Used by Future Growth** – The percent of capacity being used in each existing storm drain conveyance facility was calculated by dividing the area of each type of development (existing & future build-out) contributing to each facility by the total area for the project.

SECTION 7
ADDITIONAL CONSIDERATIONS

MANNER OF FINANCING - 11-36a-302(2)

The City may fund the infrastructure identified in this IFFP through a combination of different revenue sources.

Federal and State Grants and Donations

Impact fees cannot reimburse costs funded or expected to be funded through federal grants and other funds that the City has received for capital improvements without an obligation to repay. Some grants have been received or are expected to be received from the NRCS to help in funding the rehabilitation of the NRCS dams. In these cases, the costs reported in this IFFP and subsequent IFA include only those costs actually incurred by American Fork City exclusive of any grant funding.

Bonds

None of the costs contained in this IFFP include the cost of bonding. The cost of bonding required to finance impact fee eligible improvements identified in the IFPP may be added to the calculation of the impact fee. This will be considered in the impact fee analysis.

Interfund Loans

Because infrastructure must generally be built ahead of growth, there often arises situations in which projects must be funded ahead of expected impact fee revenues. In some cases, the solution to this issue will be bonding. In others, funds from existing user rate revenue will be loaned to the impact fee fund to complete initial construction of the project and will be reimbursed later as impact fees are received. Consideration of potential interfund loans will be included in the impact fee analysis and should also be considered in subsequent accounting of impact fee expenditures.

Impact Fees

It is recommended that impact fees be used to fund growth-related capital projects as they help to maintain the proposed level of service and prevent existing users from subsidizing the capital needs for new growth. Based on this IFFP, an impact fee analysis will be able to calculate a fair and legal fee that new growth should pay to fund the portion of the existing and new facilities that will benefit new development.

Developer Dedications and Exactions

Developer exactions are not the same as grants. Developer exactions may be considered in the inventory of current and future infrastructure. If a developer constructs a system improvement or dedicates land for a system improvement identified in this IFFP, or dedicates a public facility that is recognized to reduce the need for a system improvement, the developer will be entitled to an

appropriate credit against that particular developer's impact fee liability or a proportionate reimbursement.

If the value of the credit is less than the development's impact fee liability, the developer will owe the balance of the liability to the City. If the recognized value of the improvements/land dedicated is more than the development's impact fee liability, the City must reimburse the difference to the developer.

It should be emphasized that the concept of impact fee credits pertains to system level improvements only. For project level improvement (i.e. projects not identified in the impact fee facility plan), developers will be responsible for the construction of the improvements without credit against the impact fee. No developer dedications are expected for storm drain infrastructure.

NECESSITY OF IMPROVEMENTS TO MAINTAIN LEVEL OF SERVICE - 11-36a-302(3)

According to State statute, impact fees cannot be used to correct deficiencies in the City's system and must be necessary to maintain the proposed level of service established for all users. Only those facilities or portions of facilities that are required to maintain the proposed level of service for future growth have been included in this IFFP. This will result in an equitable fee as future users will not be expected to fund any portion of the facilities that will benefit existing residents.

NOTICING AND ADOPTION REQUIREMENTS - 11-36a-502

The Impact Fees Act requires that entities must publish a Notice of Intent to prepare or modify any IFFP. If an entity prepares an independent IFFP rather than include a capital facilities element in the general plan, the actual IFFP must be adopted by enactment. Before the IFFP can be adopted, a reasonable notice of the public hearing must be published in a local newspaper at least 10 days before the actual hearing. A copy of the proposed IFFP must be made available in each public library within the City during the 10-day noticing period for public review and inspection. These places may include the City offices and the public libraries within the City's jurisdiction. Following the 10-day noticing period, a public hearing will be held, after which the City may adopt, amend and adopt, or reject the proposed IFFP.

SECTION 8
IMPACT FEE CERTIFICATION - 11-36a-306(1)

This IFFP has been prepared in accordance with Utah Code Title 11, Chapter 36a (the "Impact Fees Act"), which prescribes the laws pertaining to the imposition of impact fees in Utah. The accuracy of this report relies upon the planning, engineering, and other source data, which was provided by the City and their designees.

In accordance with Utah Code Annotated, 11-36a-306(1), Bowen Collins & Associates makes the following certification:

I certify that this impact fee facility plan:

1. Includes only the costs of public facilities that are:
    a. allowed under the Impact Fees Act; and
    b. actually incurred; or
    c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. Does not include:
    a. costs of operation and maintenance of public facilities;
    b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents; or
    c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Complies in each and every relevant respect with the Impact Fees Act.

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